

REMARKS

This application has been reviewed in light of the Office Action dated November 19, 2004. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the objections and rejection set forth in the Office Action are respectfully requested.

Claims 1-35 are pending. Claims 11, 19-21, 26, 27 and 30 have been amended. Claims 32-35 have been added. Support for the claim changes and the added claims can be found in the original disclosure, and therefore no new matter has been added. Claims 1, 20 and 31 are in independent form.

Initially, Applicant notes with appreciation that Claims 1-19 and 31 have been allowed and that Claims 23-25 have been indicated as allowable if rewritten so as not to depend from a rejected claim. Claims 23-25 have not been so rewritten because, for at least the reasons set forth below, their base claim is believed to be allowable.

In regard to the reasons for allowance given in the Office Action, Applicant notes that the allowed independent claims do not recite “repeated calculations of word matching.” Nonetheless, Applicant submits that each of the allowed claims and claims indicated as containing allowable subject matter is allowable for its combination of claimed features.

Claims 27-30 were objected to on a formal ground. Claim 27 has been amended accordingly. Withdrawal of this objection is respectfully requested.

Claims 20-22 and 26 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,710,866 (*Alleva et al.*). In response to this rejection, Applicant respectfully submits the following remarks.

Independent Claim 20 recites, *inter alia*, storing confidence model data in a speech processing apparatus associating each word model stored in the speech processing apparatus with data indicative of the probability of a value indicative of the goodness of a match being calculated if said word model correctly or incorrectly matches an utterance. Applicant submits that nothing in the cited art would teach or suggest at least this feature of the claimed invention.

In this regard, the Office Action (page 3) cites col. 5, lines 10-18 of *Alleva et al.* as teaching associating each word model with data indicative of the probability of a value indicative of the goodness of a match being calculated if said word model correctly or incorrectly matches an utterance.

However, Applicant wishes to point out that the confidence model data recited in amended Claim 20 is not a measure of the goodness of match between a word model and an utterance.

In Applicant's specification, as explained, e.g., with reference to Fig. 6, data defining a series of probability functions is stored as confidence model data. A value indicative of the goodness of match of an utterance with a word model can then be processed using the stored confidence model data to derive a confidence score which is indicative of a calculated posterior probability that an utterance has been correctly matched.

As stated in Applicant's specification (see, e.g., page 4, line 18 - page 5, line 5 and page 15, line 18 - page 16, line 22), an advantage of the claimed method is that the confidence scores obtained closely approximate values indicative of the posterior probability that a recognition is correct given the acquired observation. An advantage of obtaining such a

confidence score is that the derived confidence score can be utilized by other models such as language models to modify calculations as to whether a recognition is correct when such additional information is available.

In contrast to Applicant's claimed invention, in *Alleva et al.* a value referred to as a constrained acoustic score (CAS) is derived directly from the closeness of match between a portion of an utterance and a stored hidden Markov model (see, e.g., col. 4, lines 22-31 and col. 6, lines 26-38). A confidence measure is then calculated using a ratio between the constrained acoustic score and an unconstrained acoustic score which is also derived from the closeness of match between an utterance and the stored hidden Markov model (see e.g., col. 4, lines 32-49 and col. 8, lines 22-50).

Although such a confidence measure may approximate a calculated posterior probability that an utterance has been correctly matched, *Alleva et al.* is not understood to appreciate the need to store confidence model data enabling an obtained confidence measure to be processed so that the confidence score becomes a more accurate representation of a calculated posterior probability that an utterance has been correctly matched, as is claimed.

For at least the reasons set forth above, Applicant submits that *Alleva et al.* does not suggest storing confidence model data in a speech processing apparatus associating each word model stored in the speech processing apparatus with data indicative of the probability of a value indicative of the goodness of a match being calculated if said word model correctly or incorrectly matches an utterance. Since *Alleva et al.* does not contain all of the elements of independent Claim 20, that claim is believed allowable over the cited art.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as a reference against independent Claim 20. That claim is therefore believed patentable over the art of record.

The other claims not yet allowed are each dependent from one or another of the independent claims and are therefore believed patentable for at least the same reasons as pertain to the independent claims. Since each of these dependent claims is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicant
Douglas W. Pinsky
Registration No. 46,994

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
DWP/tmc

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